Financial Innovation: Modern Method of Payment in China

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Abstract

The current study aims to examine the behavior of Chinese users of WeChat Pay and Alipay. Interestingly, these two-payment platforms play a significant role in China, as it transforms the latter into a cashless society within a few years. The factors which led to such change come from both inside and outside of a person. Accordingly, the researcher conducted an interview survey and subsequently collected 700 samples from 350 respondents who are 100% Chinese. They were given two separate questionnaires, one for the WeChat Pay, and the other for Alipay. Then TAM, TRA, and Network Externality were used to investigate the network on the factors influencing Chinese's behavior when using the applications. To estimate the result, Factor Analysis, Independent Sample t-test, Panel Data Regression, Linear Regression, and Structure Equation Model were applied. Every method confirmed the robustness of all results. Therefore, the researcher could prove the factors influencing the decision to accept and use e-payment channel and then compare the level of technology acceptance between WeChat Pay and Alipay.

Keywords: WeChat Pay, Alipay, Technology Acceptance Model, Theory of Reasoned Behavior, Network Externality

Introduction

Innovation could be recognized as one of the most important qualities for every person. It does not only help facilitate in the construction or production in an industry but

also in easing people's daily life activities. A concrete evidence is spending money without using bank notes or by using e-payment method. This mode of payment has become increasingly popular in several countries nowadays, particularly China that can be regarded as "cashless society" (Abkowitz, 2018). According to Statista (2020), China currently has approximately 765 million mobile payment users. The number of mobile payment transactions in 2019 was recorded at 101.43 billion, which significantly increased by 67.57% from 60.53 billion in 2018.

Two leading payment systems, namely, Tencent's WeChat Pay and Alibaba's Alipay, have driven the success of digital payment in the Chinese economy (Consultative Group to Assist the Poor [CGAP], 2019). Thomas (2013) stated that the growth of cashless payment in China is significant owing to the country's fast urbanization development and strong support from the government to substitute cash with e-payment. The current largest and leading mobile payment market in the world is China ("Digital Payments Report," 2020). Additionally, with the outbreak of the Covid-19 pandemic worldwide, China aimed to become the world's first cashless society by implementing digital yuan currency, backed by China's Central Bank in April 2020, to replace their monetary base and cash in the system (Financial Inclusion for Development [FinDev], 2020; Cheng, 2020). This goal thus supports further e-payment system revolution in the society.

According to the latest data provided by the iResearch Consulting Group, Alipay has remained the leading force of Chinese Mobile payments in Q3/2019 ("China's Mobile Payments," 2020). Its market share was 54.5%, which rose by 0.3% compared with the previous quarter. WeChat Pay ranked second at 39.5%.

Several reasons explain why payment transformation occurred in China. First, Chinese people have a high level of bank ownership (CGAP, 2019). WeChat Pay and Alipay act as a third party to serve digital payment, linking existing bank accounts and bank card of each person. Second, Chinese people widely use smartphones, which the users can easily link their account through mobile applications. More importantly, both WeChat Pay and Alipay also

generate a cross platform that can link the user's wallet directly to other in-app functions, including financial services such as insurance and investment products, e-commerce services; and convenient bill payment such as taxi and grocery products (CGAP, 2019). Lastly, QR codes are broadly applied among merchants and clients as an acceptance for digital payment due to its ease and cheapness. In addition, given that the people's Bank of China also regulates the security of QR code, it ensures the reliability of this payment method.

Tracing the bank history of these two payment platforms, namely, WeChat Pay and Alipay, China was basically a cash economy two decades ago (CGAP, 2019). WeChat Pay was generated in 2011. Given that most Chinese now use WeChat Messenger in daily life, every user will automatically access WeChat Pay by default as it comes with the application itself (Yue et al., 2017). Thereby, users only need to connect with a bank account and transfer funds to use the services (Klein, 2020).

Meanwhile, Alipay was established in 2003, roughly at the same time with Chinese e-commerce (Lu, 2018). The rapid development of online commerce in China led to an exponential growth of Alipay. The platform was granted third-party online payment licenses by the People's Bank of China (the PBOC) since May 2011. Consequently, it has been significantly regarded as an e-payment facility for online shopping.

To encourage usage, both WeChat Pay and Alipay charge relatively light transaction fees (CGAP, 2019). If the merchant's transaction volume is lower than the threshold, which is between 0.6%–1.0% of the transaction value, both companies will refund the commission. It thus ensures that small businesses can actually use the service for free and also ensure that both WeChat Pay and Alipay will receive higher amount of revenue from merchants who frequently use the service.

Although WeChat Pay and Alipay were founded in different time periods, both entities have provided financial payment services and competed with each other for a period of time. The aforementioned statements raise interesting points to study technology acceptance, network externality, and behavior usage in WeChat Pay and Alipay. Therefore, the study sets

the following two objectives: compare the level of technology acceptance between WeChat Pay and Alipay and examine the factors influencing decision to accept and use e-payment channel. This research was conducted by applying three theoretical frameworks composed of Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), and Network Externality.

Literature Review

Theory of Reasoned Action (TRA) was invented by Fishbein and Ajzen in 1975. It claims that a person's behavior is affected by an intention to perform which is influenced by his or her attitude and subjective norms (Silverman et al., 2016). The framework represents the difference between beliefs, attitudes, intentions, and behaviors (Alwahaishi & Snášel, 2013). Attitudes are based on the belief about a behavior (toward an object). Meanwhile, subjective norms of a person are from a perception of community's attitude toward a behavior.

Theory of Planned Behavior (TPB) was proposed by Ajzen in 1985, which explains all behaviors that people are able to control (LaMorte, 2019). The key is that behavioral intentions are influenced by the attitude toward future expected outcome and subjective evaluation of the advantages and disadvantages of such outcome.

Technology Acceptance Model (TAM) was invented in 1986 by Davis to specifically explain the acceptance of information system and technology in a user (Lai, 2017). Based on an article by Ma and Liu (2005), the model was grounded on the concept of social psychology theory and TRA, which perceived usefulness and perceived ease of use have a direct influence on behavior intention.

Network externality was invented by Katz and Shapiro in 1985, defining the value of effect that a user receives from a particular product or service (Katz & Shapiro, 1985). The concept explains a positive relationship between utility in product consumption and number of users (Wang et al., 2005), meaning that network externality will occur when an increase in user provides product's benefits to existing user service (Katz & Shapiro, 1985).
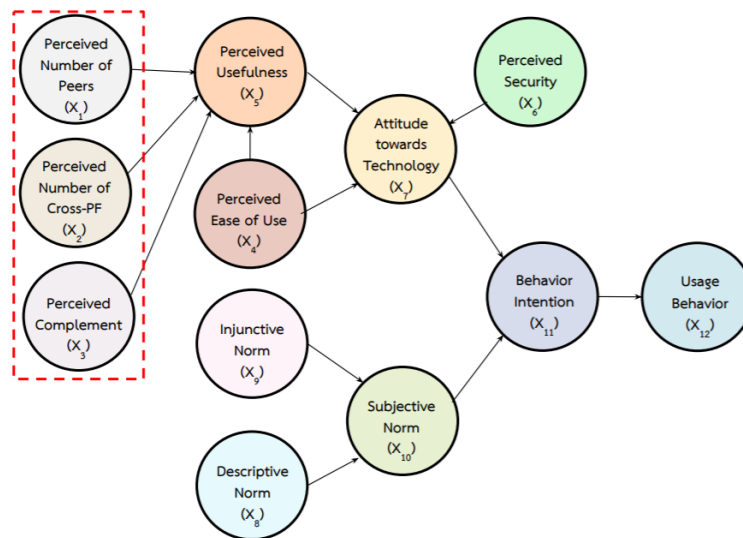
TAM + TRA + Network Externality

Figure 1 Tam+Tra+Network Externality

To clarify the conceptual framework, it begins with TRA which explains about people's action. Everyone's behavior evolves. People would behave in a certain way if they see something good and bad. This phenomenon happens only because several other people do and is comparable to WeChat Pay and Alipay, that is, the Chinese use them probably because they are good. However, the Chinese might also use such platforms because others in their society use them, thereby causing a subjective norm. Then TPB explains further that although it is a good platform, people do not use it due to their inadequate knowledge. This phenomenon is called perceived behavioral control. In other words, subjective norm does not happen due to an inability of a person to do so. TAM grounded the concept of TRA and TPB to explain a person's acceptance of a technology, such as WeChat Pay and Alipay in this study. It states that given that some people could not use WeChat Pay and Alipay, the subjective norm cannot be explained. TAM thus divided perceived behavioral control into two types: perceived usefulness and perceived ease of use. WeChat Pay and Alipay must not only be good but must also be easy. If both platforms are good, people will tell others to use them, which could be in terms of descriptive and injunctive norms. Accordingly, it leads to

network externality. WeChat Pay and Alipay will be more beneficial if they have other networks and cross platforms among themselves. Furthermore, considering that these platforms are about financial payment, the researcher added another factor which is perceived security to study.

According to the conceptual framework of the study above, a rigorous study on the use of WeChat Pay and Alipay among Chinese people is interesting because these platforms have transformed China into a cashless society within only a decade. WeChat Pay and Alipay are payment channels that are near cash in terms of liquidity. They act as an intermediary in a two-sided market concept between buyers and sellers which are widely accepted across the country. Network externality is obviously seen. Considering the first objective, that is, to compare the level of technology acceptance between WeChat Pay and Alipay, the researcher wants to know which payment platform is more accepted among the Chinese. Moreover, the researcher wants to examine the reasons for which this acceptance happened as stated in the second objective, that is, to study the factors influencing the decision to accept and use e-payment channel.

Research Methodology

The research employed the survey method and subsequently collected 350 samples comprising Chinese people. The questionnaires were measured by using the Likert Scale and were categorized into two types, namely, WeChat Pay and Alipay. Each Chinese respondent was required to perform two sets of questionnaires, thereby generating a total of 700 samples.

The first survey was conducted via a face-to-face interview in Beijing, China during 12–19 October 2019. The second survey was performed online through Google Forms and www.wjx.cn, a popular Chinese questionnaire website. The respondents received them via Line, Facebook, and WeChat Applications.

Considering that the study concerns the modern methods of payment in China using two applications, namely, WeChat Pay and Alipay, the scope of data focused on Chinese

people only. The sample would be represented partially in panel data because it was collected from the Chinese respondents who use both WeChat Pay and Alipay. The usage frequency per day was set as a proxy.

Table 1 Usage Frequency/Day

Usage Frequency/Day	e-Wallet		Total
	WeChat Pay	Ali Pay	
Less than 3 a day	144	158	302
	47.7%	52.3%	100.0%
About 3-7 a day	149	140	289
	51.6%	48.4%	100.0%
More than 7 a day	57	52	109
	52.3%	47.7%	100.0%
Total	350	350	700
	50.0%	50.0%	100.0%

Reliability" and "Validity" are two significant determinants that verify gathered data as it assists researchers in knowing whether the questionnaire is sufficiently good.

For reliability, if the information is reliable, data consistency should be presented throughout the period, regardless how many times researchers conduct the measure. The higher value of reliability lowers the measurement error, either from unreliable questionnaire or respondents themselves.

Validity is the degree of variability in a participant's score that would reflect individual difference in characteristics or construct. This measurement will depend on a particular purpose and intention of study and thus may be valid for one purpose but not in another. The data will be valid only if they are reliable. Nonetheless, reliable data need not be valid.

Cronbach's Alpha is an index measuring reliability. It indicates whether the items (factors) in a questionnaire are related to one another. The value ranges from 0.0–1.0, with acceptable coefficients set at 0.7 (70%) or greater.

Factor analysis is applied to estimate validity. The factors should be highly or partially correlated to one another so that validity is constructed as an interrelationship because factor analysis type R will be based on correlation matrix among variables (x_i). Validity should be

assessed as a single factor (variable), and it would exist if % total variance is higher than 70%. Moreover, factor loadings of all variables have high values at more than 0.7.

After testing gathered data: Perceived Number of Peers, Perceived Number of Cross-Platform, Perceived Complement, Perceived Ease of Use, Perceived Usefulness, Perceived Security, Attitude towards Technology, Descriptive Norm, Injective Norm, Subjective Norm Behavior Intention, Usage Behavior, and Preference, it shows that Cronbach's Alpha results of all factors are more than 0.7. Thus, the factors are reliable and related to one another. Both % total variance and factor loading are also higher than 0.7. Thereby, a sign of validity exists.

Independent Sample t-test is measured by using Bivariate Analysis. It is a measure used to examine the empirical relationship between two variables. The result presents a preliminary analysis of the variables, including application name, gender, age, marital status, education, occupation, monthly average income, amount of money put in application wallet, and frequency of usage.

Panel data analysis presents the data by using dummy variables. In this study, WeChat Pay and Alipay were split as a control variable. The regression would provide a clearer picture compared with the independent sample t-test method because it would not be ambiguous on the difference between variables. The equation for this study is

$$
\begin{aligned}
y_{ia} = \; & \beta_0 + \beta_1 Alipay + \beta_2 Female + \beta_3(25-42\ years\ old) \\
& + \beta_4(43-54\ years\ old) + \beta_5(Older\ than\ 55) \\
& + \beta_6(Married) + \beta_7(Divorced) \\
& + \beta_8(Undergraduate) + \beta_9(Postgraduate) \\
& + \beta_{10}(PhD) + \beta_{11}(Public\ institution) \\
& + \beta_{12}(Foreign\ enterprise) + \beta_{13}(White\ collar) \\
& + \beta_{14}(Private\ entrepreneurs) + \beta_{15}(No\ business) \\
& + \beta_{16}(Others) + \beta_{17}(RMB1000-3000) \\
& + \beta_{18}(RMB3000-5000) + \beta_{19}(RMB5000-8000) \\
& + \beta_{20}(RMB8000-11000) \\
& + \beta_{21}(RMB11000-15000) \\
& + \beta_{22}(More\ than\ RMB\ 15000) + \varepsilon
\end{aligned}
$$

The SEM simultaneously performs regression analysis of several equations using factor analysis to examine the correlation among variables. In the study, five equations exist, including

$$PU = PNP + PNCP + PC + PEOU + \varepsilon_{13}$$
$$Att = PU + PS + PEOU + \varepsilon_{22}$$
$$SNorm = DNorm + INorm + \varepsilon_{35}$$
$$BI = Att + SNorm + \varepsilon_{40}$$
$$UB = UI + \varepsilon_{43}$$

Results and Discussion

As stated earlier, the questionnaire in this study is set in Likert Scale measurement. To answer Objective I: To Compare the Level of Technology Acceptance Between WeChat Pay and Alipay, Independent Sample t-test Using Bivariate analysis and Panel Data Using Dummy Variable are applied.

For Independent Sample t-test Using Bivariate analysis, if looking at e-wallet variable of WeChat Pay and Alipay, t-test value shows that the attitudes toward each application and other aspects are not the same.

Table 2 e-wallet variable of WeChat Pay and Alipay

Variable	Obs.	PNP	PNCP	PC	PEOU	PU	PS
e-Wallet							
WeChat	350	0.802	0.806	0.800	0.821	0.835	0.708
Ali Pay	350	0.844	0.832	0.803	0.779	0.842	0.781
t-test		3.30 ***	2.05 **	0.27	2.67 ***	0.55	4.24 ***

Variable	Att	DNorm	INorm	SNorm	BI	UB	Comp
e-Wallet							
WeChat	0.788	0.729	0.673	0.674	0.732	0.683	0.564
Ali Pay	0.820	0.738	0.681	0.663	0.757	0.713	0.653
t-test	1.99 **	3.30 ***	2.05 **	0.27	2.67 ***	0.55	4.24 ***

The result of Bivariate analysis shows that "Age" and "Frequency of Usage" are highly significant at p-value < 0.01 (***). Therefore, people from different generations and usage frequency tend to have different attitudes. Nonetheless, for age, given that the acquired data for Chinese respondents aged between 43–54 years old and 55–73 years old, were very few, this limitation affects the result. In other words, Age could not be classified much owing to the number of gathered samples itself, thereby compelling the use of frequency of usage per day as a proxy to categorize sample. Meanwhile, if the variable has no *, it is not a control variable, indicating that each aspect at different variables has no difference in attitude toward the usage of applications.

Considering the Independent Sample t-test, using the Bivariate analysis cannot exactly tell whether people with different genders have different behaviors when using WeChat Pay and Alipay. Thus, the researcher applied panel data using dummy variable for further study because different educational levels and other impacts may lead to different behaviors. Therefore, the regression analysis in this method could tell whether having the same gender but different education and whether having the same education but different genders would generate the same or different results.

Table 3 Behaviors when using WeChat Pay and Alipay

Variable	PNP	PNCP	PC	PEOU	PU	PS
Mean[a] Application	0.801 ***	0.784 ***	0.755 ***	0.780 ***	0.843 ***	0.791 ***
AliPay	0.041 ***	0.025 ***	0.004	-0.042 ***	0.008	0.072 ***

Variable	Att	DNorm	INorm	SNorm	BI	UB	Comp
Mean[a] Application	0.766 ***	0.733 ***	0.680 ***	0.690 ***	0.705 ***	0.691 ***	0.571 ***
AliPay	0.033 ***	0.008	0.007	-0.011	0.024	0.030 *	0.089 ***

Panel data analysis could be interpreted regarding the difference between each variable and its dummy, which can examine the "mean." To demonstrate, perceived number of peers (PNP) of WeChat is 0.801. Meanwhile, Alipay is higher than WeChat Pay by 0.041; therefore, the PNP of Alipay is 0.842. Overall, the results confirmed that the Chinese tend to have a higher level of technology acceptance of Alipay than WeChat Pay.

Consequently, bivariate and dummy variable analyses help answer the first objective which is to compare the level of technology acceptance between WeChat Pay and Alipay.

For Objective II: To Study the Factors Influencing the Decision to Accept and Use E-payment Channel, Linear Regression: Pool Linear Model and Random Effect Model and Structure Equation Model (SEM) are used.

The Pool Linear Model does not specify clearly that 700 observations come from 350 people answering the question (1 person per 1 WeChat Pay and 1 Alipay questionnaires). Conversely, using panel data regression controlled by random effect model makes such detail evident. It presents that the results of both models have no substantial difference. In other words, the results are quite robust. Different models provide nearly the same value results.

Table 3 The Pool Linear Model

Variable	Pool Linear Models				
	PU	Att	SNorm	BI	UB
PNP	0.221 ***				
PNCP	0.056				
PC	0.256 ***				
PEOU	0.265 ***	0.207 ***			
PU		0.565 ***			
PS		0.222 ***			
Att				0.285 ***	
DNorm			0.371 ***		
INorm			0.581 ***		
SNorm				0.403 ***	
BI					0.804 ***
Constant	0.194 ***	0.000	0.002	0.246 ***	0.099 ***
Obs-App	700	700	700	700	700
F-test	163.9 ***	352.4 ***	607.3 ***	290.7 ***	727.6 ***
R-square	0.485	0.603	0.635	0.455	0.510

F-test shows a significant result, thereby rendering the models usable. Furthermore, R-square indicates that the model can explain approximately 40%–60%. Although the model is significant, it could not be explained much owing to constant value. Some of them are significant at 99%, meaning that some significant variables that can help explain still exist but are still excluded in the model. Additionally, those variables are unknown.

Table 4 Re Models

Variable	RE Models				
	PU	Att	SNorm	BI	UB
PNP	0.215 ***				
PNCP	0.050				
PC	0.244 ***				
PEOU	0.256 ***	0.201 ***			
PU		0.538 ***			
PS		0.240 ***			
Att				0.285 ***	
DNorm			0.369 ***		
INorm			0.571 ***		
SNorm				0.403 ***	
BI					0.807 ***
Constant	0.219 ***	0.013	0.011	0.246 ***	0.097 ***
Obs-App	700	700	700	700	700
Obs.	350	350	350	350	350
Chi-square	545.7 ***	928.5 ***	1134.5 ***	581.5 ***	731.5 ***
Overall R-square	0.485	0.603	0.635	0.455	0.510

For SEM, to see the overall test's rule of thumb, the CD, CFL, and TLI values should be around 0.95. RMSEA. Alternately, error should be less than 0.05.

Table 5 SEM Total

SEM - Total					
Variable	PU	Att	SNorm	BI	UB
PNP	0.233 ***				
PNCP	0.059				
PC	0.355 ***				
PEOU	0.282 ***				
PU		0.602 ***			
PS		0.182 ***			
PEOU		0.172 ***			
Att				0.339 ***	
DNorm			0.208 ***		
INorm			0.622 ***		
SNorm				0.613 ***	
BI					0.961 ***
N	700				
chi2_ms	5189.1 ***				
chi2_bs	27933.4 ***				
CD	0.999				
CFI	0.836				
TLI	0.823				
RMSEA	0.094				
SRMR	0.295				

Although the results have different magnitudes, they remain in the same direction. Consequently, robustness is presented.

Then Subsample Analysis are brought. If WeChat Pay and Alipay are split, the regression result will be as follows

Table 6 Subsample Analysis

WeChat Pay	PU	Att	SNorm	BI	UB
PNP	0.201 ***				
PNCP	-0.010				
PC	0.249 ***				
PEOU	0.324 ***	0.225 ***			
PU		0.556 ***			
PS		0.210 ***			
Att				0.243 ***	
DNorm			0.269 ***		
INorm			0.643 ***		
SNorm				0.429 ***	
BI					0.759 ***
Constant	0.216 ***	-0.010	0.045	0.252 ***	0.127 ***
Obs-App	350	350	350	350	350
RSS	6.21	7.46	9.04	9.01	9.20
F-test	73.8 ***	148.0 ***	294.3 ***	141.4 ***	356.2 ***
R-square	0.461	0.562	0.629	0.449	0.506
Adj. R-square	0.455	0.558	0.627	0.446	0.504

Ali Pay	PU	Att	SNorm	BI	UB
PNP	0.242 ***				
PNCP	0.170 **				
PC	0.238 ***				
PEOU	0.195 ***	0.216 ***			
PU		0.571 ***			
PS		0.206 ***			
Att				0.320 ***	
DNorm			0.475 ***		
INorm			0.522 ***		
SNorm				0.381 ***	
BI					0.850 ***
Constant	0.153 ***	0.010	-0.043	0.242 ***	0.069 **
Obs-App	350	350	350	350	350
RSS	5.64	5.64	7.90	7.98	10.17
F-test	94.0 ***	211.7 ***	321.3 ***	150.6 ***	369.2 ***
R-square	0.522	0.647	0.649	0.465	0.515
Adj. R-square	0.516	0.644	0.647	0.462	0.513

It claims that the results are not nearly the same as the previous regression, particularly PNCP or perceived number of cross-platform. WeChat Pay is insignificant and has a negative effect, whereas Alipay is opposite. This phenomenon means that Alipay has a greater number of cross platforms such as Alibaba, Taobao, and Tianmao. Another example is that WeChat Pay has more subjective norm effect than their own attitude toward technology.

However, if Alipay with WeChat Pay are compared, the magnitudes are not very different despite having the same trend.

Table 7 SEM WeChat Pay and AliPay

SEM - WeChatPay

Variable	PU	Att	SNorm	BI	UB
PNP	0.206 ***				
PNCP	0.011				
PC	0.371 ***				
PEOU	0.348 ***				
PU		0.641 ***			
PS		0.168 ***			
PEOU		0.140 **			
Att				0.287 ***	
DNorm			0.124 *		
INorm			0.715 ***		
SNorm				0.650 ***	
BI					0.944 ***
N	350				
chi2_ms	2982.2 ***				
chi2_bs	14079.3 ***				
CD	0.999				
CFI	0.830				
TLI	0.817				
RMSEA	0.094				
SRMR	0.274				

SEM - AliPay

Variable	PU	Att	SNorm	BI	UB
PNP	0.268 ***				
PNCP	0.120 *				
PC	0.336 ***				
PEOU	0.189 ***				
PU		0.578 ***			
PS		0.173 ***			
PEOU		0.220 ***			
Att				0.384 ***	
DNorm			0.324 ***		
INorm			0.515 ***		
SNorm				0.573 ***	
BI					0.976 ***
N	350				
chi2_ms	3418.1 ***				
chi2_bs	15280.8 ***				
CD	0.999				
CFI	0.814				
TLI	0.800				
RMSEA	0.103				
SRMR	0.329				

Although magnitudes are slightly different, directions remain in the same trend. Hence, WeChat Pay and Alipay are not completely different.

Although WeChat Pay and Alipay are spilt, the results remain consistent, which also represent robustness. Therefore, these models would help answer the second objective which is to study the factors influencing the decision to accept and use e-payment channel.

Conclusions and Recommendations

After applying the analysis using several methodologies, including 1) Factor Analysis using Cronbach's Alpha, 2) Independent Sample t-test using Bivariate Analysis, 3) Panel Data Regression using Dummy Variable, 4) Linear Regression: Pool Linear Model and Random Effect Model, and 5) SEM, all of them are found robust, meaning that the questionnaire is sufficiently good, and the gathered data are reliable and valid. Thus, the results of all models used for analysis follow the same trend despite the slight difference in magnitudes. The results explain the study's objectives.

Objective I: To compare the level of technology acceptance between WeChat Pay and Alipay

Result: The Chinese have a higher level of technology acceptance of Alipay than WeChat Pay in nearly every aspect, including PNP, PNCP, PC, PU, PS, Att, DNorm, INorm, BI UB, and Comp. In other words, it excludes PEOU and SNorm.

Objective II: To study the factors influencing the decision to accept and use e-payment channel

Result: All factors influence Chinese to use WeChat Pay and Alipay. This finding is proven because many models were tested, and all show robustness. The results from factors affecting WeChat Pay and Alipay follow the same trend with slight magnitude difference.

The limitation of study could be inferred as limitation in data collection. The first round of data collection was conducted face-to-face using two sets of questionnaires in Beijing last October 2019. Accordingly, generation Z were found to have the highest cooperation in answering the questionnaire probably because they are at the period of study that requires them to conduct research as well. Problems tend to occur most with the baby boomer generation. Finding the samples is quite difficult as nearly 10% of them will use WeChat Pay and Alipay. They are still mainly based on bank notes. Another frequent problem is that

generation X did not cooperate much because they are scared to answer the questions related to finance although the survey purpose was mentioned earlier in the questionnaire.

The second round of data collection was conducted online using Google Forms and www.wjx.cn in which the questionnaire was sent through Line, Facebook, and WeChat. Generation Z were found to have the highest cooperation in using this method as well. By contrast, collecting those of the other three generations was difficult. Some Chinese failed to understand the purpose of this survey and thought it would waste their time, thereby explaining their refusal to participate. Moreover, the survey was conducted online only due to the Covid-19 pandemic.

Although the data contained no substantial information for Generation X and Baby boomer, they are nonetheless good. Considering that the research concerns the technology of modern payment method, few Chinese individuals in these generations use it. Thus, if the samples were specifically chosen only for people who use these platforms, it might lead to sample selection bias. The second round of survey which was conducted online is a straightforward process because it could help filter out only the Chinese who actually use the applications. Moreover, the most important is that the results of this study could be explained and trusted on the bases of the several tests that show robustness.

For comparison between Result vs. Facts, the results from objectives I and II indicate that all factors in the test affect the Chinese's decision to use WeChat Pay and Alipay. Nevertheless, the Chinese tend to prefer Alipay over WeChat Pay in nearly every aspect, except PEOU and SNorm. Comparing the facts seems to validate this observation. WeChat Pay is evidently different from Alipay in terms of social networking factor (Yue et al., 2018). According to Statista (2019), the most popular social media platform in Q3/2019 is WeChat, implying that nearly every Chinese must automatically use this application to contact with others. In addition, the users simply click the tab that links to the chat window to make a payment (Yue et al., 2018). Therefore, these features explain why PEOU and SNorm in WeChat Pay are higher than Alipay.

For comparison between Result vs. Theory, on the basis of the aforementioned conceptual framework, this study combines the three models, including TRA, TAM, and Network externality, and thus create 11 factors in the model. The results present consistency with the theories. WeChat Pay and Alipay have transformed the society into a cashless economy through two-sided markets among the Chinese (PNP). Considering that using payment platforms is easy not only for purchasing things but also for other purposes, the Chinese appreciate their usefulness (PNCP, PC, PE, PU, and Att). People then use them (BI and UB). Nonetheless, the reasons for which people use WeChat Pay and Alipay are not always as previously stated because other people use them, which can be their family and relatives or strangers (INorm, DNorm, and SNorm). Moreover, as WeChat Pay and Alipay are about finance, security is in the platform as well. Accordingly, gathered results and prior theory setting can be concluded as consistent.

For comparison between Result vs. Previous Studies, the study claimed that the key advantages that WeChat Pay can attract users include its in-app payment function and social factors (Yue et al., 2018). It could combine with current social network function and also bring several social games, activities, and other services that enhance its efficiency. Consequently, such capability led to wide acceptance among the Chinese. Meanwhile, Alipay is similar to WeChat Pay in that the significant factors motivating platform usage include the perceived ease of use and perceived usefulness (Li et al., 2017). The study presented that the leader of Chinese e-commerce is Alibaba in which its Alipay transactions also increase consistently with the growth of its own online market, particularly Taobao and Tianmall (Choi & Sun, 2016). The elements that place Alipay at an advantage over others include unique-payment related service, providing guarantee over transactions, enhanced online payment functions via integrated diverse function, and user-friendly services. Additionally, Alipay also launched Yu'e bao that assists users who retain money in the account deposit for interest. Alipay also initially faced a two-sided market between buyers and sellers as a barrier (Choi & Sun, 2016). Nevertheless, Alibaba overcame such issue by implementing various sets of multi-channel services. Its outstanding features include transactions guarantee and payment security.

Another previous study pointed out that perceived usefulness and usage intention are important points that lead to application integration among users (Zhu et al., 2017). To increase the chances of integration, the developers should care about user-friendliness, security, cross-platform ability, convenient payment, and subjective norms. Therefore, gathered result in this study is consistent with previous studies.

For recommendation to application usage, using cashless system for payment is convenient, but from the study and survey, several baby boomers and Generation X people have no substantial knowledge about this concept. Consequently, they still base their daily payment on bank notes. In addition, the researcher faced actual situations for payment transactions as traveling to Beijing last year. Many shops required customers to pay cash using WeChat Pay or Alipay only. Some stores refuse to accept any bank notes, regardless whether customers could or could not use online payment. Therefore, this situation may create problems to people, especially the baby boomer and generation X who do not know how to use online payment. Therefore, the government or their family members should be concerned about this problem and should fix it by providing them knowledge on the use of online payment.

For recommendation to future research, the current research should also apply to examine the case in Thailand, given the many online payment platforms that have slowly emerged nowadays. The examples are Rabbit Line Pay, True Money Wallet, and banking QR Code payment. Several people in every generation have begun to use these services. This phenomenon is particularly seen during the COVID-19 pandemic when Thai people fear of bank notes and thus force them to apply online payment platform instead. Accordingly, the researcher believes that the new normal which includes a cashless society using online payment platform, would happen soon in Thailand.

For recommendation to Application Developer and Administrators, and Regulators and Policy Maker, as aforementioned recommendation, Thai people tend to use online payment platforms due to the Covid-19 situation and interesting promotions of the platform itself. The

researcher recommends application developer and administrators to consider the successful example in China that can genuinely transform society into a cashless economy. The convenience lies in the fact that every transaction could be performed in a mobile phone, which everyone regularly uses nowadays. Additionally, such payment platform should add other beneficial in-app functions that would motivate customers to use it. The central bank should also be concerned about the world and Thailand's current situation such as technology development and innovation, person security, and usage convenience. Thus, it should support the adoption of e-payment platform accordingly.

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